GOVERNMENT OF INDIA
COMMUNICATIONS
LOK SABHA

UNSTARRED QUESTION NO:1757
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Mobile Towers and the Radiations therefrom
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Will the Minister of COMMUNICATIONS be pleased to state:

(a) whether approximately one lakh new mobile towers are required annually to expand and provide seamless services including advanced facilities like 4G , 5G and internet of things, across the country and if so, the details thereof;

(b) whether there are nearly five lakh mobile towers across the country and if so, the details thereof, State/UT-wise;

(c) the norms/guidelines laid down by the Government for Electro Magnetic Field (EMF) radiation level/limit for mobile towers and the actual EMF radiation level therefrom along with the norms and actual radiation levels in other countries;

(d) the Specific Absorption Rate (SAR) prescribed for mobile handset in the country in comparison to the prescribed SAR of other countries; and

(e) whether it is a fact that against global radiation standard of 4.5 watts per square metre in the widely used 900 Megahertz frequency, the stipulation mandated in the country is 0.45 watts per square metre and if so, the details thereof ?

Answer

THE MINISTER OF STATE (IC) OF THE MINISTRY OF COMMUNICATIONS &
MINISTER OF STATE IN THE MINISTRY OF RAILWAYS
(SHRI MANOJ SINHA)

(a) No Madam, for provision of seamless services including advanced facilities like 4G, 5G and Internet of Things (IoT), the Telecom Service Providers (TSPs) are required to expand their network so as to ensure adequate coverage at all the locations where such services are required to be provided. However, the number of mobile towers required to be installed by a TSP depends on the geographical area required to be covered, along with other factors and there is no direct connection between the number of mobile towers to be installed annually for provision of such coverage.

(b) As on 31-05-2017, there are total 4,48,273 mobile towers installed by different TSPs.

The telecom licenses are issued Licensed Service Area (LSA) wise and accordingly the information about number of mobile towers is maintained LSA-wise and provided at Annexure-A.

(c) Department of Telecommunications (DoT), in the year 2008, adopted the International Commission on Non Ionizing Radiation Protection (ICNIRP) guidelines that are recommended by World Health Organization (WHO) for basic restriction and limiting reference levels of electromagnetic radiation from mobile towers. Based on the recommendations of an Inter-Ministerial Committee (IMC), with effect from 01.09.2012, these limits have been made ten times more stringent than the limits prescribed by ICNIRP and recommended by WHO. The present Electro Magnetic Frequency (EMF) radiation limits as laid down for Base Transceiver Stations (BTSs) installed on various mobile towers in India are as follows:
<pre>
Frequency Range E-Field Strength (Volt/Meter) H-Field Strength (Amp/Meter) Power Density (Watt/Sq.Meter)
400 MHz to 2000 MHz 0.434 f Â½ 0.0011 f Â½ f / 2000
2 GHz to 300 GHz 19.29 0.05 1

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(f is frequency in MHz)

With regard to norms for Electro Magnetic Field (EMF) emission level/limit in other countries, as per GSMA, the Global Association of Mobile operators, 124 countries have adopted ICNIRP norms (including United Kingdom, Germany, France, Japan, South Korea, Australia, Singapore, Malaysia, Mexico, Brazil, Argentina, Spain, Poland, Denmark, Sweden, Finland, Afghanistan ,Egypt, Nepal, Pakistan, Myanmar, Thailand, Indonesia, Australia, New Zealand, Korea, Iran, South Africa, Saudi Arabia etc.) and 11 countries (including United States of America (USA), Venezuela, Puerto Rico, Iraq etc.) follow the Federal Communication Commission (FCC)

limits (which are much higher than the norms adopted in India). Thus the EMF norms adopted in India is stricter than the EMF norms adopted in all these countries.

Government of India has not only prescribed stringent norms for EMF emission from mobile towers, but has also put in place a well structured process and adequate mechanism to ensure that Telecommunications Service Providers strictly adhere to these prescribed norms.

(d) The present limit/level of Specific Absorption Rate (SAR) for Mobile Handsets in India is also one of the most stringent in the world and is 1.6 Watt per Kg averaged over a mass of one-gram human tissue, at par with USA, Canada and Australia, as against the global standards prescribed by ICNIRP of 2 W/kg averaged over a mass of 10 gm tissue and adopted by China, Singapore, Ghana, Brazil, Japan, Nigeria, Republic of Korea etc.

Â© Yes. As has already been mentioned in part Â© above, EMF emission standards adopted in India are ten times more stringent than the global standards prescribed by ICNIRP and recommended by WHO. Accordingly, for 900 MHz frequency, the permissible EMF emission limit in India is 0.45 watts per square meter against the global EMF emission standard (as prescribed by ICNIRP and recommended by WHO)of 4.5 watts per square meter.

Annexure − A

Licensed Service Area (LSA) wise details of
mobile towers installed as on 31-05-2017
<pre>
SN Name of LSA Number of mobile tower Installed
1 Andhra Pradesh 34,621
2 Assam 10,114
3 Bihar 29,390
4 Delhi 19,535
5 Gujarat 26,071
6 Haryana 9,898
7 Himachal Pradesh 5,022
8 Jammu and Kashmir 7,730
9 Karnataka 28,236
10 Kerala 15,851
11 Kolkata 8,861
12 Madhya Pradesh 29,846
13 Maharashtra 35,704
14 Mumbai 14,407
15 North East 6,474
16 Odisha 15,028
17 Punjab 17,663
18 Rajasthan 24,277
19 Tamil Nadu 38,799
20 Uttar Pradesh (East) 29,748
21 Uttar Pradesh (West) 23,303
22 West Bengal 17,695
Grand Total 4,48,273
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